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An essay on the Muslim Gap

Religiosity and the political system

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Abstract:

The paper analyzes 3 main trends: (t1) The economic development in the Muslim world is slower than in the rest of the world. (t2) The world grows increasingly democratic due to rising incomes, but this trend does not affect the Muslim world. (t3) The world grows increasingly secular due to rising incomes, but this trend is much weaker in the Muslim world. The difference in (t1) is smaller than necessary to explain (t2) and (t3). It is demonstrated that the data contain two economic convergence clubs: The Western club and the Arab one. The non-Arab Muslim countries follow the path of other non-Western countries, though at a lower level. Further, it is demonstrated that Muslims deviate as to family life values and the preference for religion in politics. The data also show that Muslims are less satisfied with their lives.

Keywords: Muslim gap to West, income, democracy, religiosity

Jel: B25, O1

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Development is the process of a *Grand Transition* which consists of a set of interacting transitions in almost all fields of society. Many of these transitions are well-known: The demographic transition, the urban transition, the human capital transition, the sectoral transition, etc. Together all transitions change society profoundly, but the changes are also necessary for development. This essay deals with the problems caused when a culture resists key parts of the Grand Transition.

I concentrate on two transitions, which I have discussed at some length elsewhere: The *democratic transition* and the *religious transition*.[1] As countries go through the Grand Transition, they normally turn into secular democracies. Both transitions have an important exception: They are much weaker in the Muslim world. This is a deliberate choice that acts as a brake on development. By "deliberate choice" I mean that we are dealing with outcomes resulting from values cherished by large fractions of the population in these countries.[2]

This essay concentrates on the three large trends listed in Table 1. In the last 50 years, the world has seen an unprecedented increase in income, in democracy, and a considerable secularization as well. The most powerful explanation of the increase in democracy and the fall in religiosity is the growth of income.

Table 1. The main stylized facts discussed

Trend	Transition	World	Muslim countries	Section	Data used
(t1)	Income	Increasing	Smaller increase, lower level	1	Maddison's gdp data
(t2)	Democracy	Increasing	No change, low level	2	Polity and Gastil indices
(t3)	Religiosity	Decreasing	Smaller decrease, high level	3	World Value Surveys

The nature of the Muslim Gap is thus that while rising income in the world turns other countries into secular democracies, the Muslim world has a stationary low level of democracy and a weak secularization. Consequently, the *Muslim Gap* to the rest of the world is widening.

Traditional societies were/are different from each other, and they had/have typically been stable for many centuries. Thus, they had/have well established traditions and corresponding beliefs and opinions. Some traditional cultures are close to modern society and

1. The *democratic transition* is discussed in Borooah and Paldam (2007), Paldam and Gundlach (2008) and Gundlach and Paldam (2008a). It is often termed Lipset's Law after Lipset (1959, 1994). The *religious transition* is discussed in Gundlach and Paldam (2008b). It is often termed the *secularization*, but the term is used in several ways. We use the term *transition* to indicate a systematic change caused by development.
2. The values and beliefs differ strongly between countries due to historical processes that started to diverge a long time ago, so the "deliberate choice" is not, of course, made from a clean slate at any point in time.

flexible, while others are further away and protected by taboos making adjustment difficult. The latter may cause institutions to become stuck in the past and to develop into development barriers. One argument that will be pursued below is that Muslim society has stronger and more well-defined traditions than most other cultures, and that they are relatively difficult to adjust to development.

Any attempt to explain the Muslim Gap quickly hits the gulf separating two levels of analysis:[3] (L1) The "hard" *social sciences* measure the Gap and study its dynamics at the *operational* level of statistics and data. This provides a solid, but shallow, analysis. (L2) The level of the "soft" sciences of the *Arts* provides a web of speculation about perceptions of facts. It is *deeper*, but also *cheaper*, as little is testable and cumulative – even the perceived facts are often dubious.[4] It is difficult to bridge the gulf and attach the hard operational explanations to some parts of the web, but this is what we try to do.

Perhaps I need to state that I discuss the reduced forms relations between the three "big" variables. The purpose is not to model all channels between these variables. This is an attempt to see the forest, not a study of the leaves on the trees.

Sections 1, 2 and 3 establish the stylized facts on the trends in income, democracy and religiosity respectively. Section 4 considers the explanations at the level of *the Arts*. Section 5 looks at some additional items from the World Value Surveys. Finally, Section 6 concludes.

1 The path of income: A slow Muslim divergence

This section looks at the trends in income and uses the Millennium dataset from the OECD (Maddison, 2001, 2003, net), which we have linked to the PPP data in the World Development Indicators (see WDI, net): ***gdp*** is GDP per capita, measured in 1990 International Geary-Khamis dollars. ***Income*** is $\ln gdp_{it}$, where i is country and t time.

The Maddison data start year 1500, but with few countries only. From 1950, the data cover most countries. As we go backwards in time from 1950 to 1500, the data are based on gradually less evidence. When the whole data set is considered, the gdp has a minimum level of $ 300-350. Most of the analysis considers the *four country groups* – West, ONM, Arab and OM – listed in Table 2. If not explicitly stated, the 5th group (CT) is excluded. This group provides a unique historical experiment, which will be discussed separately.

3. A famous discussion of the dichotomy between the hard and soft sciences is found in Snow (1959, 1963).
4. One may consider the wry comment of Niels Bohr, who argued that theory often started from "deep theory", where "deep theory" is ideas with the property that their negation is also "deep theory".

Table 2. Four groups for the 141 countries and the C/T group

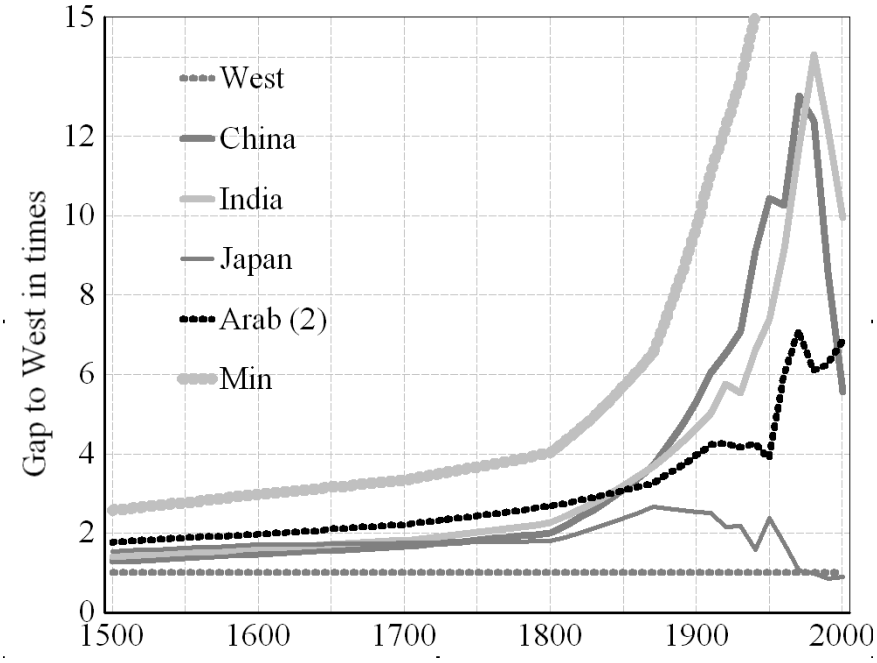
	Name	Includes	Income	Polity
(1)	***West***	Western Europe, Australia, Canada, Israel, New Zealand and USA	21	21
(2)	***ONM***	**O**ther **N**on **M**uslim, residual group	81	68
(3)	***Arab***	The 17 Arab countries are often referred to as ***Arabia***	17	16
(4)	***OM***	**O**ther **M**uslim	22	22
(5)	***CT***	Before 1990: 16 countries ***C***ommunist	16	16
		After 1990: 5 are ***C***ommunist and 29 are in ***T***ransition	34	34

Note: The Appendix Table shows how the countries are grouped. The two right hand columns show the number of countries in the data used. Polity is the democracy index used in most of the analysis.

1.1 The very long run: The relation between the West and three large Asian cultures

Figure 1 gives the economic gap between Western Europe and the three large old Asian cultures: China, India and Arabia (only Egypt and Morocco) from the year 1500. Japan is added to show a successful convergence. The underlying data show the *Grand Transition* where gdp rises 30-40 times through an increase in production for the West and Japan. The non-European countries are *Traditional* societies with essentially zero economic growth till late. The large old cultures did generate gdp's well above the minimum necessary to sustain the population, but most of the population was poor.

Figure 1. The development of the gap to the West



Note: Straight lines interpolate between available observations. Arab (2) is the average of Morocco and Egypt.

The Grand Transition can also be described as a *modernization* process. The data claim that the gdp of Western Europe was growing by 0.1% to 0.15% p.a. for the 3½ centuries from 1500 to 1850, so it must be a steady state where all growth represents *technical progress*. If these trends are projected backwards, they hit the minimum level around year 1000, so the *low growth steady state* of Western Europe lasted at most only 1-2 centuries more than shown. The data thus contend that the West was ahead by 2-2½ times in 1800. After 1850, the *Industrial Revolution* increased the difference.

These numbers point to the low level of R&D before year 1800. The Golden Age of culture and science in the Muslim World in the 12th to 13th century was created by a few handfuls of researchers and scientists and so was the Renaissance in Italy in the 15th century. The research establishment in Italy during the Renaissance corresponds to the R&D division in a middle sized modern company today.

The data shown include 2 Muslim countries only – both Arabian. However, for some of the time, India was ruled by the Muslim Mogul Dynasty, so the picture shown may be fairly representative. The important point is that the growing gap was due to changes in the West, while the rest of the world stayed constant. Even though the change in the West was slow in the beginning, the process of divergence started before year 1500. Figure 2 shows the consequences in the form of a relative gap: Japan catches up fully with Western Europe. India and China both turn the last 30 years, but have a long way to go. Arabia does not catch up.

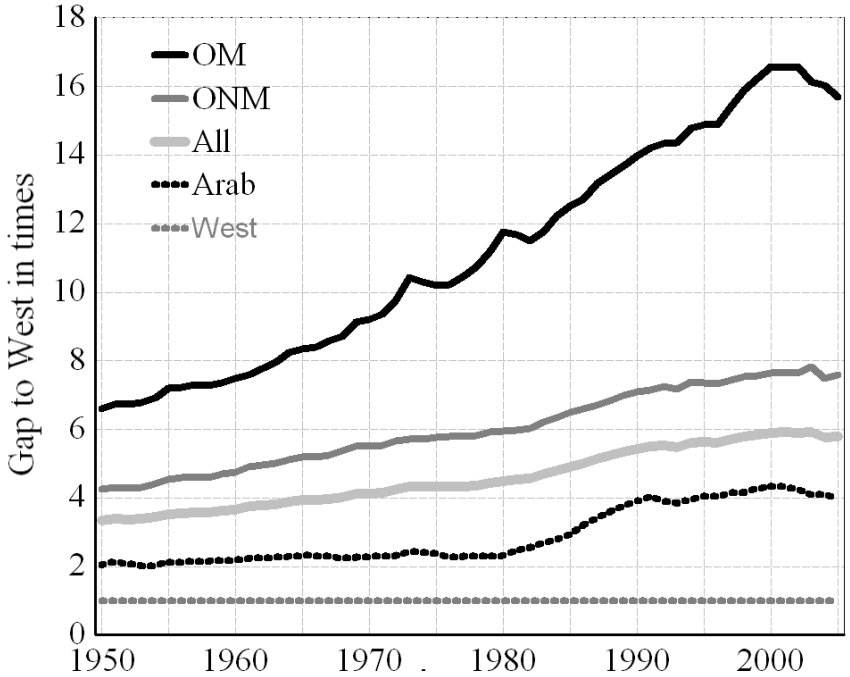
1.2 The last 50 years: Data for 135 countries divided into four groups

For the past 50 years, the full data set covers 160 countries. The ratio between the richest and poorest decile comes to almost 40 times (see Table 3 below). The poorest decile has an average that is the same as the average for Asia in 1500-1800.[5] The oil shock caused a reduction in the growth of all 4 groups, but the reduction is least in the West and strongest in the two Muslim groups. Until the oil shock, all four groups grew nicely, but after that, the two Muslim groups have had essentially zero growth.

Figure 2 is drawn as Figure 1. It only starts in 1950, but the lines now represent the four country groups we want to compare. The economic gap between the West and the Muslim world was considerable in 1950, and it has kept growing. The data for the Arab countries contain a set of oil countries that quickly covered some of the gap by a one-time jump in income. These countries got rich from resource rent, not from production.

5. The latest group of rich countries – the Asian Tigers – grew 30-40 times to join the rich countries, but they did so in a period of little less than half a century.

Figure 2. The development of the gap to the West, 1950 - 2005



1.3 The transition of gender roles

A reason for the slower development in the Muslim world seems to be a strong resistance to one of the most important transitions: The transition of gender roles. It is due to five mechanisms (M1) to (M5) that appears quite general. The first four mechanisms explain why development reduces the number of pregnancies and births:

(M1) Rising incomes allow people/societies to be able to afford more medical care, clean water, etc. Thus, child mortality drops, and the number of births necessary to produce an adequate amount of offspring falls. (M2) Income growth causes financial deepening, and the tax base relative to GDP rises. With the advent of financial institutions, and with rising tax revenues, both private and public social security become a realistic possibility for the population, and hence the number of children necessary for the social security of parents falls. (M3) With rising income the range of feasible consumption goods – competing with children – increases. (M4) Rising production demands much human capital, and the informal education provided within families becomes less and less adequate. Thus, the costs of children rise relatively. With fewer pregnancies and births, the workload of women decreases. In addition: (M5) Rising income reduces the relative costs of household mechanization.

The mechanisms (M1) to (M5) are independent of culture, and they greatly reduce the traditional workload of women. Hence, a new division of labor between the genders becomes possible and *indeed economically desirable*. This has large effects on *gender relations*.

The Muslim culture has strong traditions for a strict separation of the genders and the protection of traditional gender roles. With economic growth, modernization has spread in the Muslim world, and e.g. a rapid urbanization is taking place. Modern westernized elites have emerged in the large cities of most Muslim countries. This has created tensions and an Islamist movement in many Muslim countries, trying to preserve, and indeed return to, traditions. It blames the West for the "immorality" of the gender role transition.

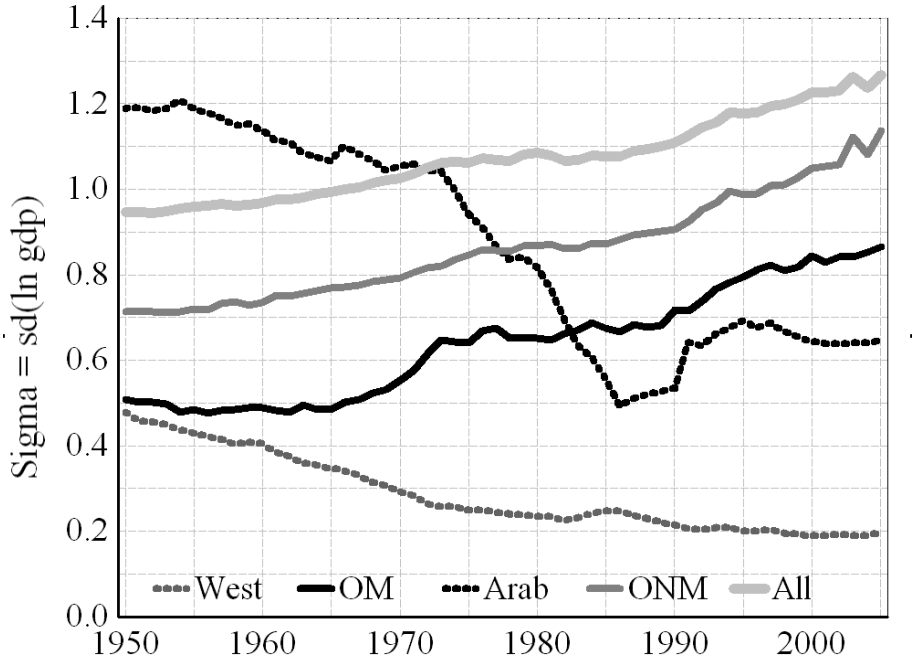
1.4 Convergence (σ): Two convergence clubs, the West and Arabia

As shown, the West and the two Muslim groups diverge. We now turn to the convergence within the groups by calculating the *σ-measure for convergence from 1950 to 2005.*

(1) $\sigma(t,G) = SD_i(y_{it}),$ where $y = \ln gdp$, G is a country group, and $i \in G$

The paths of the σs are given on Figure 3. The pattern of convergence shows the two well-known facts of a convergence within the West and a divergence for the world. Unsurprisingly, the 81 countries in the *ONM-group* follow the curve for all countries closely. Also, the *OM*-curve essentially follows the same pattern of slow divergence. Hence, it is interesting to note the strong – though somewhat erratic – path of convergence for the Arab countries. The convergence happens both within oil countries and within non-oil countries and between the two groups (an appendix with these calculations is available from the author).

Figure 3. The σ-measure of convergence within the four groups



The data thus have two convergence clubs: The West and Arabia, which diverge from each other. Convergence has to be to an *attractor*. Economic theory suggests that *attractors* are levels generated by common technologies and institutions. The attractor for the West is international best practice technology.

However, the attractor to which the Arab countries converge is much less clear. We know that the Arab countries do have a great deal of interchange of ideas, and that tradition is strong in this group. This leads to the following two hypotheses:

(H1) The attractor, to which the Arab countries converge, is modern technology and the changes it necessitates in society to the extent it is possible given tradition.

(H2) Tradition is conservative, so (H1) causes a slow divergence from the West.

These two hypotheses are broad and thus hard to prove. If they are true, they demonstrate why Western convergence stops at the shores of the Mediterranean and only crosses the sea by jumping to islands such as Malta, Cyprus (G) and to Israel. From (H1) and (H2), it follows that Islamic tradition constitutes a brake on development, and thus modernization generates a steadily increasing pressure on tradition, as is further discussed in Section 4.

1.5 The forward and backward reaction to modernization and divergence

In 1853-54, the Japanese discovered that by a process of stagnation and deliberate isolation, they had been overtaken by the West. This was a main reason for the Meiji Restoration in 1868. It led to a determined process of learning Western technologies in all fields, and as a consequence, Japan did catch up, see Figure 1. This process has been replicated by the four Asian Tigers, and it is now in China as well. One reaction to discovering that you are behind is thus to make a large effort to learn and catch up – this is the "*forward reaction*".

However, there is an alternative "*backward reaction*": To blame the one ahead, and turn inward to your own roots. In the Muslim case, this results in a return to the ways of life and worship of the 7th century. This will not, of course, solve a development problem in the 21st century, but rather increase the size of the problem. It leads to a third hypothesis:

(H3) The Muslim, and notably the Arab, reaction to the large and growing economic gap is to a considerable extent backward as defined above.[6]

6. This point is expressed in many ways: One is to speak about "wounded civilizations", or to use the concept of "pride". Also an argument is: If you have the right beliefs and the unbelievers are doing much better, then perhaps you are not as faithful as you should be. So the solution is to try harder to be a good Muslim.

It is easy to give examples of forward reactions in the Muslim world as well. Many rulers have been determined modernizers. However, the Islamist movement that is so prominent today is a radical backward reaction. The gulf between beliefs and the changes generated by the Grand Transition creates tensions in the society and existential problems for the individual. We hypothesize that it should lead to frustrations and show up in the empirical welfare measures available, see Section 5.4:

(H4) Life satisfaction is lower in the Muslim countries than in comparable countries.

1.6 The oil complex and Dutch Disease

The final point deals with the Oil countries which become rich without going through the Grand Transition. The literature on the effects of resource wealth discusses the longer run effects on society of such wealth. The popular name for the effects is the *Dutch Disease*. Countries with great non-produced wealth inevitably get a wage level that allows people to purchase the import the country can afford. This wage level is (much) higher than productivity, so all other exports, except the resource, become uncompetitive.

To preserve social tranquility, governments have to pass on a fair amount of the resource rent to the native population, who then become *rentiers* living on resource rent. Consequently, the natives can pay foreigners to come and do the work necessary, giving natives a life of leisure. This allows them to live a traditional life devoted to religion, and at the same time enjoy the goods of the rich countries. We formulate this as a fourth hypothesis:

(H5) Oil allows some countries to combine *tradition* with a modern pattern of consumption. Thus, oil has the reverse effect on social change than has the Grand Transition.

2 The Democratic Transition: A Muslim divergence in outcomes

Section 5.1 looks at the preferences for democracy as found by the World Value Surveys. Muslims express the same high preference for democracy as everybody else. However, political outcomes differ. Political outcomes are measured by two data sets (see net): ***Polity***, from CIDCM at the University of Maryland. ***Gastil,*** from Freedom House (average of democratic rights and civil liberties). These indices compete, they use different scales, see Table 3, etc. However, they both have the pattern discussed, and, for the overlapping 33 years, they have a cross-country correlation of -0.90 ± 0.02.

Table 3. The data for the Grand Transition 2001, based on income deciles

	Averages for income deciles		Difference	Democracy Scale	
	Lowest	Highest			
gdp, GDP per capita [a)]	557.7	22002	39.5 times	Perfect	Perfect
Income: Ln gdp	6.32	10.00	3.68 points	autocracy	democracy
Polity index	1.25	9.19	7.94	−10	+10
Gastil index	4.88	1.38	−3.50	7	1

Notes: a. Source for gdp, Maddison (2003). Made for all available countries – high overlapping.

2.1 The Democratic Transition – summary of prior results

Table 3 looks at income in the poorest and the richest deciles, which differs by 40 times. This corresponds to a rise in democracy with about half the range of either index – the results are very close to the regression results on all data given in Table 4.

The change in democracy is best explained as a Democratic Transition due to the change of income.[7] Gundlach and Paldam (2008a) demonstrate that in the long run all causality is from income to democracy. This is the case even when the long run is created by interactions that look like two-way causality. The theoretical explanation of these facts is given in Paldam and Gundlach (2008).[8]

The estimates of the effects of Islam and Oil suffer from two problems: (a) There are few observations before 1950. (b) There is some multicollinearity between the effects of Islam and Oil since a rather large fraction of the oil-countries is Muslim. When there are more than three of either Muslim or Oil countries in the regression, the coefficients to either variable are always significant. The next section concentrates on the effects of Muslim culture on the averages for the two democracy indices.

Table 4. Summary of regressions: Comparison of results

Column	Typical of Gastil results		Typical Polity results	
Equation	Gastil scale	Polity scale	Polity Scale	Gastil Scale
Conversion		P = (40-10G)/3		G = (40-3P)/10
Income: Ln gdp	−1.1	3.6	3.2	−1.0
Muslim	1.7	−5.7	−3.2	0.9
Oil	1.4	−3.3	−6.2	1.9

Notes: Sources: Paldam (2007). Jensen and Paldam (2007), Borooah and Paldam (2007) and Gundlach and Paldam (2008a). The Gastil index is termed G and the Polity index is P.

7. A large literature uses the degree of democracy to explain growth, and hence eventually income levels. It has found small effects which are borderline robust. However, the orders of the finding make them unable to explain more than a small fraction of the correlation observed (see Borooah and Paldam, 2007).

8. The Grand Transition view is contradicted by the Primacy of Institutions view of Acemoglu, Johnson and Robinson (see AJR 2005 and AJR and Yared 2008). The theories are surveyed in Paldam and Gundlach (2008), and rejected in Gundlach and Paldam (2008a).

2.2 Exceptions to the general pattern

The Democratic Transition is thus a fine explanation of the steady democratization of the world. However, the estimates of the relations assume that country heterogeneity is random. Consequently, it is important to look for "clubs" of countries which are so similar that they provide non-random deviations from the pattern. Tests for about 10 such clubs representing different cultures, economic systems etc. are given in Paldam (2007). Most were insignificant once the relation was controlled for income. However, three exceptions have been found:

(1) *Socialist* countries – i.e. countries where public ownership dominates – is a small group today. Communist countries in particular and socialist countries in general have less democracy than other countries at the same level of development.

(2) Countries that are so *resource rich* that they reach a high standard of living without going through the Grand Transition. The most evident example is *Oil* Countries, which form an interesting case as they are less democratic than other rich countries.

(3) By far the largest exception in the world today (where socialism is vanishing) is the Muslim groups of countries, which are less democratic than other countries at the same level of income. The Arab group is the original Muslim group, where we expect Muslim traditions and political ideas to be most entrenched. As we shall se, they do deviate in a striking way from the general picture.

2.3 The paths of the two democracy indices for the four groups

Figure 4 shows the Polity index covering the full century. Around 1960, the coverage increases, but for the first half of the century, only the West has an almost full coverage, though Finland, Ireland and Israel became independent in 1917, 1920 and 1948 respectively. The path of the West has a clear upward trend, but it is upward censored as one country after the other reaches the maximum of +10.

Figure 5 shows the corresponding graph for the Gastil index. This index is reversely scales and starts in 1972 only, but for the overlapping years the picture is the same.

The data shown on the two graphs are exclusive the CT-countries, so the democratic advance in the world from the late 1980s to the mid 1990s is not due to the Transition from Socialism in the 1990s. It may reflect that the West won the Cold War, but only indirectly, as some countries may have changed political system to accommodate the winners.

Note also that the large increase in incomes took place in the 1960s in many countries, while the large increase in democracy came with a lag. The Democratic Transition is a process with much inertia.

Figure 4. The paths of the Polity democracy index for the four groups, since 1900

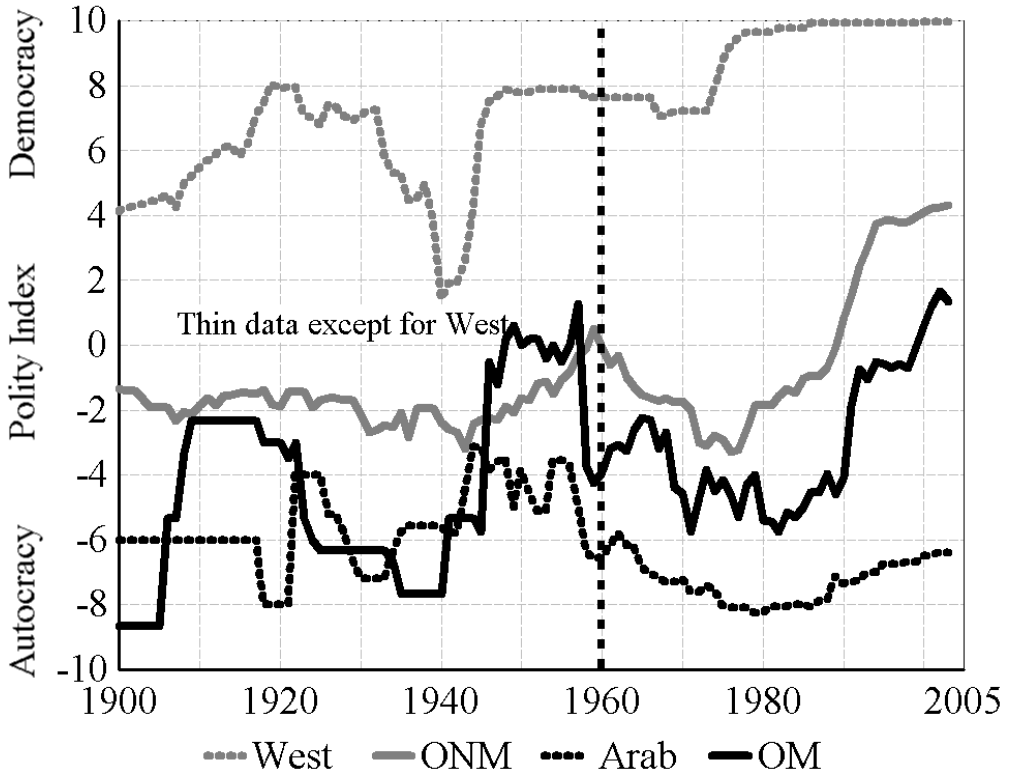
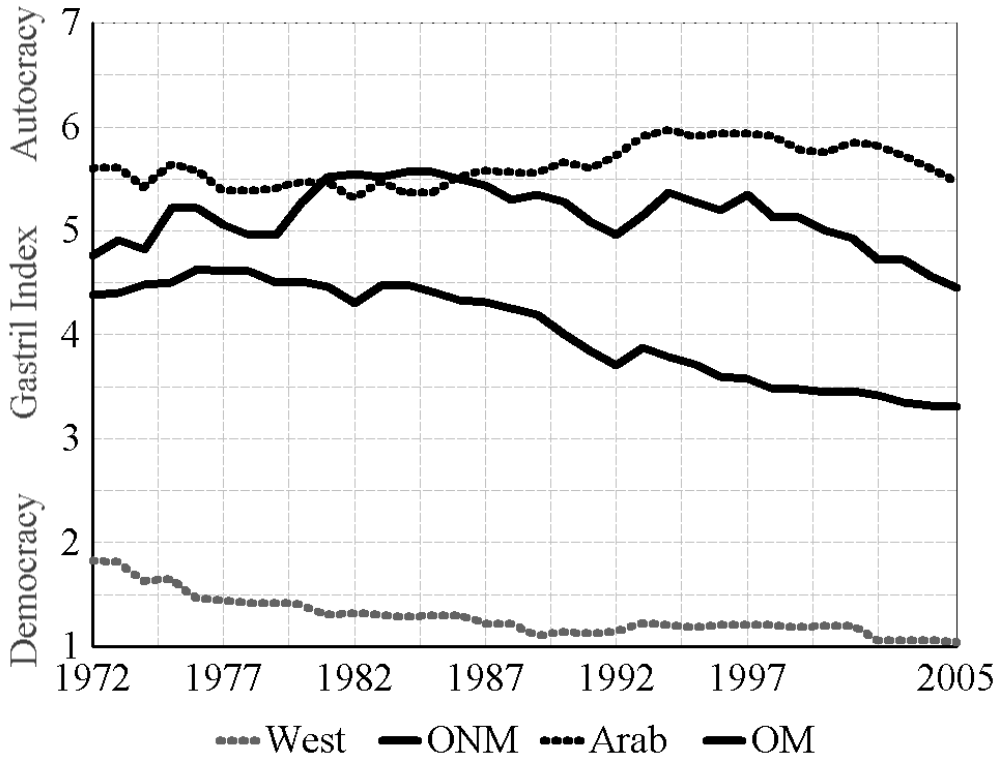


Figure 5. The paths of the Gastil democracy index for the four groups, 1972-2005



Note that the scaling on the vertical axis differs even in sign from Figure 4 to Figure 5.

2.4 The Muslim gap: The trends in the differences

When the gaps in political systems between the groups are considered, it appears that in most cases it grows between the non-Muslim and Muslim groups. However, there are some fluctuations, and in Table 5 we test the significance of the trends in the gaps. All gaps tested are growing. From looking at the lines drawn, the reader can see that it is possible to find periods where the Muslim gap is closing, but the overall picture is the one of a widening gap.

We are most interested in the development in the last part of the period, where data are adequate. That is the tests done with the Gastil Index. Here the gap between the ONM-group and the two Muslim groups increase with 1¼ to 1½ Gastil points. On a scale with a range of 6 points, this is substantial. From Figure 5 it is clear that this is due to the trend towards democracy in the rest of the world, which does not exist in the Muslim world.

Table. 5. The significance of the gaps and trends on Figures 4 and 5

From		Between	Period	Average	t-ratio	Slope (year)	t-ratio
(5b)	Polity	Arab-West	1900-2004	−13.59	−47.7	−0.070	−10.8
(5b)	Polity	OM-West	1900-2004	−11.35	−48.9	−0.024	−3.2
(6b)	Gastil	Arab-ONM	1972-2004	−1.59	−15.0	−0.056	−11.9
(6b)	Gastil	OM-ONM	1972-2004	−1.11	−15.4	−0.035	−8.7
(6b)	Gastil	Arab-West	1972-2004	−4.34	−78.3	−0.029	−11.5
(6b)	Gastil	OM-West	1972-2004	−3.85	−63.3	−0.008	−1.4

Note: Gaps are scaled to be negative, indicating that the Muslim group is less democratic. Hence, if they grow, the slope is negative, indicating a rising problem.

2.5 The transition from socialism: The experiment of the CT-countries

The data include 33 countries with a Communist government before 1990. Five still have a Communist regime, but the remaining 28 countries form the Transition group. It contains no Arab country, and though some of the transition countries are rapidly becoming Western, they started out very differently. So we have divided in two groups only: Muslim (Arab and OM) and Others (West and ONM). And the 28 transition countries are similarly divided in Muslim T and Others T.

The countries in the Transition group experienced the political change in 1988-91 as a sudden collapse of the old political system and the central control. In the cases of the Soviet Union and Yugoslavia, even the state as such disintegrated. The development of the new political order in these countries thus provides a fine historical experiment.

Figure 6. The transition from socialism of 28 countries (groups defined in text)

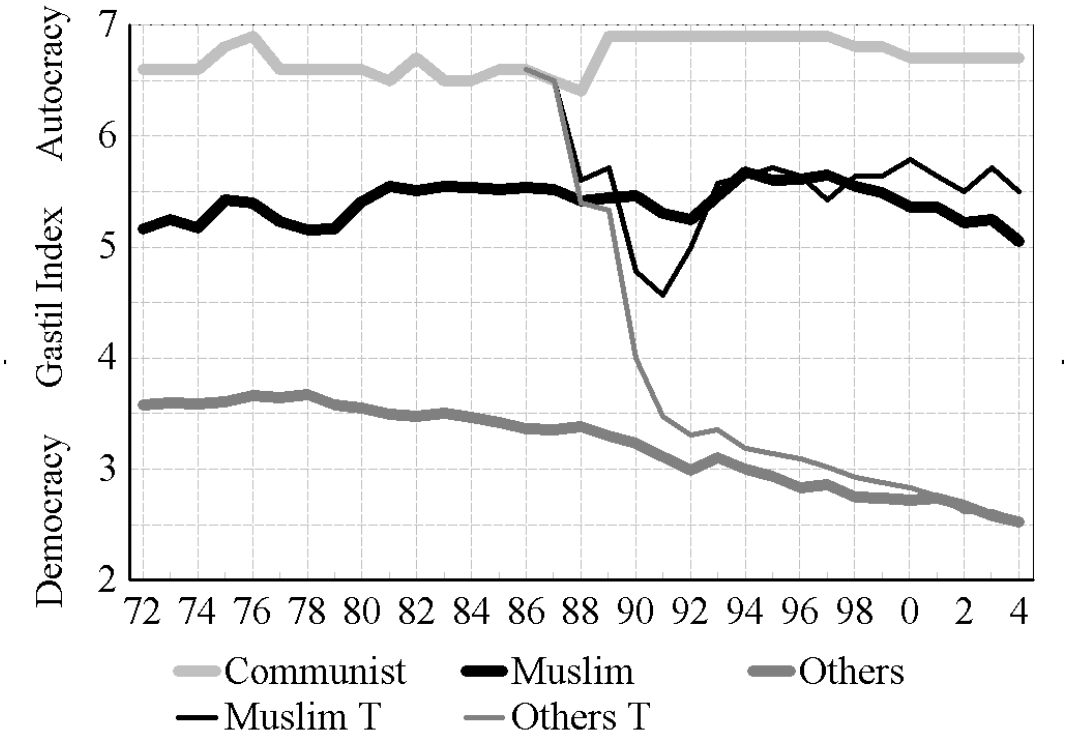


Figure 6 shows what has happened: The five remaining Communist countries even tighten their dictatorships – probably due to the dramatic collapse of Communism in the 28 Transition countries. The Muslim Transition countries had a short democratic "spring" in 1990 to 92, and then they moved to the typical Muslim level of democracy (around 5.5). Finally, the Other transition countries moved toward the other countries in that group.

The group of Other transition countries has made great strides toward democracy. The most Western countries in the group are the richest in the group. They are already at an almost Western level of democracy. Consequently, the countries quickly converged to the position in the big pattern where they would have been without the previous Communist regimes.

3. The religious transition: A Muslim divergence

A total of 11 items in the *World Value Surveys* (net) measure aspects of religiosity. They are listed in Table 6 as R1 to R11. All items are scaled so that when they rise, it is natural to say that religiosity increases. The surveys cover 83 countries (see Appendix Table), including 21 Western and 13 Muslim countries of which 6 are Arab.

3.1 The country averages of the World Value Survey data on religiosity

The VWS data are in % of all respondents. The average scores – the right hand column of the table – are thus measured in ***pp***, i.e. percentage points. That is, when item R3 gives a score of 36.8 pp, it means that 36.8% of all respondents say that religion is very important in their life. We use the average of the column, i.e., 55.8 pp, as an order of magnitude to compare with when we calculate the effects of income and culture below.

Gundlach and Paldam (2008b) contains a factor analysis of the 11 items on the largest possible balanced and unbalanced (pairwise) correlations of these observations – the results are the same for the two analyses. Factor 1 has an eigenvalues of ap. 8, while Factors 2 and 3 have eigenvalues of 1.2 and 0.4 only. Thus, it is reasonable to say that the 11 items are dominated by Factor 1, which we hence term religiosity.

Column 2 of Table 6 gives the factor loadings to the dominating factor, and the 11 items are sorted by their loading. The fact that religiosity data is dominated by one factor allows us to merge the data and run stacked regressions which use all observations. It ties the coeffi-cients, so it does not fully explore the data, but most of the regressions have been made for each item. They look as expected.

Table 6. The 11 measures of religiosity: Number of observations and average score

	R	Content	Number of countries where the item was used										Avr
	Fac.	Wave	81/82		89/90		94/95		99/00		Sum		Score
	load		All	Mu	All	Mu	All	Mu	All	Mu	All	Mu	pp
R1	0.940	God is very important in	20	0	37	1	51	5	69	13	177	19	60.1
R2	0.927	Important teach children	21	0	43	1	53	4	68	13	185	18	31.6
R3	0.907	Religion is very	0	0	42	1	53	4	69	13	164	18	36.8
R4	0.883	Churches give answer to	0	0	35	0	0	0	67	13	102	13	40.0
R5	0.865	Churches answer	16	0	35	0	0	0	67	13	118	13	50.8
R6	0.832	Believes in God	19	0	35	0	50	5	67	13	171	18	82.1
R7	0.826	Is a religious person	21	0	42	1	50	4	68	13	181	18	68.6
R8	0.804	Churches answer moral	16	0	35	0	0	0	67	13	118	13	55.2
R9	0.777	Attend services at least	21	0	40	1	51	4	69	13	181	18	39.9
R10	0.750	Churches give answer to	16	0	35	0	0	0	67	13	118	13	69.3
R11	0.658	Belongs to religious	21	0	41	0	52	5	69	12	183	17	79.9
		Sum	171	0	420	5	360	31	747	142	1698	178	55.8

Note: Fac. 1 is the first factor. *Mu* indicates that the country is Muslim. The precise wording and the way the scores are calculated are given in Inglehart *et al*, 2004. The 11 items R1, .., R11 are the following items: f063, a040, a006, f038, f036, f050, f034, f035, f028, f037, f024.

3.2 Explaining religiosity: Regressions (1) and (2) in Table 7

Table 7 gives the basic analysis of religiosity. We first consider (1) and (2) of the table. These regressions use all 1698 religiosity observations, and consequently they reach high levels of significance. The effect of income is negative and has t-ratios of 14-15.[9] The results in column (2) of the table have been used to calculate Table 8.

Table 7. Explaining religiosity by stacked OLS regressions

	(1) All		(2) All		(3) Muslims	
	Coeff	(t-ratio)	Coeff	(t-ratio)	Coeff	(t-ratio)
Ln y	**-8.90**	(-13.2)	**-10.38**	(-15.7)	**-3.27**	(-2.0)
West	**-10.66**	(-7.1)	**-6.97**	(-4.7)		
Muslim	1.39	(0.8)	**4.11**	(2.4)		
Controls for other countries and groups						
Arab	**6.01**	(2.3)	**6.52**	(2.6)	**5.65**	(2.5)
Trans	**-22.19**	(-20.0)	**-21.50**	(-20.5)	**-22.90**	(-8.5)
Orient	**-21.98**	(-12.7)	**-18.67**	(-11.1)		
USA			**26.84**	(9.9)		
Catholic			**6.85**	(7.5)		
Scandinavian			**-8.17**	(-5.3)		
Fixed effects for items R7 and R10 omitted						
Item R1	**-8.92**	(-5.7)	**-8.76**	(-5.9)	**12.19**	(3.2)
Item R2	**-37.01**	(-23.8)	**-36.89**	(-25.2)	**-16.18**	(-4.3)
Item R3	**-32.23**	(-19.8)	**-32.18**	(-21.1)	-5.86	(-1.6)
Item R4	**-29.96**	(-15.6)	**-30.01**	(-16.6)	**-20.83**	(-4.9)
Item R5	**-18.31**	(-10.1)	**-18.37**	(-10.8)	**-12.55**	(-2.9)
Item R6	**13.18**	(8.3)	**13.25**	(8.8)	**17.19**	(4.4)
Item R8	**-13.97**	(-7.7)	**-14.03**	(-8.2)	-6.53	(-1.5)
Item R9	**-28.61**	(-18.3)	**-28.57**	(-19.4)	**-31.45**	(-8.2)
Item R11	**11.45**	(7.3)	**11.50**	(7.8)	**15.97**	(4.1)
Fixed effects for waves, Wave4 omitted						
Wave1	***-2.79***	(-1.8)	**-3.21**	(-2.2)		
Wave2	**-2.98**	(-2.8)	**-3.21**	(-3.2)	**-12.25** [a)]	(-2.0)
Wave3	**-3.30**	(-2.9)	**-3.24**	(-3.0)	-1.36	(-0.5)
Constant	**161.84**	(27.8)	**170.46**	(30.5)	**109.55**	(8.4)
R^2 adjusted	0.640		0.682		0.666	
N	1698		1698		178	

Note: The dummies for R7 and R10 are very close in all three regressions when made with all items dummies and no constant. Coefficients with t-ratios above 2 are bolded, and if they are between 1.65 and 2, they are bold and in italics.

a. Covers only Turkey.

9. When regressions (1) and (2) in Table 7 are run for the 11 individual items, the effect of income is significantly negative in all cases.

Table 8 shows that the full religious transition is 35 pp. This is substantial relative to the average religiosity of 56% (from Table 6). It means that the Grand Transition decreases religiosity from above 70% to below 40% in the average country.

In addition to income, there is also the effect of culture. Here, the West has a negative coefficient of about 10 pp, while Muslim and especially Arab countries differ to the other side. When the effect of culture is added to the one of income in Table 8, a gap of 30-40 pp appears between the West and the Muslim (notably the Arab) countries.

The two other country groups included are the oriental and the transition groups, which have small values of religiosity. Clearly, the anti-religious propaganda in the Communist countries did work. We also notice that Catholic countries are a little more religious than others, while the Scandinavian countries are less religious.

The USA is outstandingly religious. Only a small difference in religiosity exists between the Arab countries and the USA, in spite of the large difference in income. Hence, controlled for income, the USA is significantly more religious than the Arab world.

All 3 fixed effects for waves in regressions (1) and (2) are similar and negative. Religiosity has increased from the early 1990s till 2000 by about 3 pp. Thus, the "wave" of religiosity in the new century is rather small.

Table 8. Calculations in percentage points (pp) based on Table 7

Between	And	Gap in income	Effect of income	Effect of culture	Total effect
			Excess religiosity in poorest group in pp		
		Times	Pp	Pp	Pp
Richest 10%	Poorest 10%	40	35	-	35
West	Arab	3	11	18	29
West	ONM	20	29	12	41
USA	Arab	3.25	11	-10	2
USA	Scandinavia	1.2	2	-35	-37

Note: All "pp" values are calculated from estimates (1) and (2), using average values of the estimated coefficients. Note from Table 6 that the average religiosity score is 56%.

The author is aware that it is controversial in the sociology of religion if the religious transition is a fact. Using the WVS, it is not dubious at all: It is a strong fact.

It appears a common hypothesis in the field that man has constant religious needs that must be satisfied one way or another. Thus, it is only a question of measurement to find out how. This hypothesis appears to be suspiciously close to a tautology. Having lived in poor and rich countries, I find it unbelievable as well.

3.3 Muslim countries only: Regression (3) in Table 7

No Muslim country is represented in wave 1, and only Turkey was included in wave 2, so we have rather limited possibilities for analyzing the dynamics of religiosity in these countries.

The last regression presented in Table 7 is for the 178 observations for the Muslim countries alone. For the Arab and transition variables, the results are the same as before. However, the secularization effect of income drops to 1/3. In view of the growth of the Islamist movement, one should expect a large jump in the coefficients to the waves. This effect fails to show up, but this may be due to lack of data.

It is tempting to conclude that the reason for the lack of democracy and the relatively weak economic development in the Muslim world is religiosity, but then the case of the USA becomes a problem.[10] We are hence forced to conclude that the difference is due to some property of the actual religions – not to the difference in religiosity.

4. Some theories: Why are these gaps emerging?

The world's two largest monotheistic religions, Christianity and Islam, as well as Judaism, originated 1200 kilometers apart in the Middle East, among peoples speaking related Semitic languages. They have common roots.[11] While Christianity is easy to combine with democracy, Islam is not. It is not obvious why, though it is easy to speculate, and many ideas have been presented.[12] As usual, we distinguish between two types of explanations:

Fundamental differences are due to factors that are so central to the religion that they are not likely to change. ***Transitory*** differences are due to dynamic processes set into motion by *historical accidents,* which may be replaced by other accidents causing them to go away.

4.1 Some characteristics of Muslim tradition

Traditional Muslim society is deeply influenced by the way of life in the 7th century Mecca, in the form of the *Hadith.* It is a set of *generally accepted stories* centered on the life of Muhammad (570-632). Together with the *Koran* (610-32), the *Hadith* defines the traditional

10. The Scandinavian countries and the USA have the same scores on the democracy indices and virtually the same income, while they differ by 37 pp in religiosity. This goes together with unusually high Scandinavian values of honesty (Transparency International corruption index), life satisfaction and mutual trust (WVS).
11. Christianity is claimed to be a version of Judaism, which was put right by God's son Jesus, who is not recognized by the Jews. Islam is claimed to be the final version of the religion, in the form of the Koran, which was reveled by the Messenger of God, Muhammad, who is not recognized by the Jews and the Christians.
12. This section is based on many, but less systematic, sources including about 2½ years of travel and residency in 17 Muslim countries. Some of the more general information is based on standard textbooks on Islam in Danish (Østrup, 1914, and Asmussen, 1981), and narratives such as Naipaul (1981).

way of life, *Sunnah*, of the Muslim. The *Sunnah* is based on a set of religious and social rules and duties. Also, there is the traditional legal system of *Sharia Law* with swift and strict punishment for crime, which includes a number of deviations from the Sunnah, such as heresy, adultery and homosexuality. One part of Sunnah demands a complete separation between the genders outside the family.

The *Sunnah* is both well-defined and protected by taboos. Also, the non-adherence to *Sunnah* is easy to observe for others in society. Consequently, it is eminently suited for generating social cohesion and stability in low income societies (see 4.6). Due to the codification, the *Sunnah* gave/gives considerable unification so that village life in Morocco, Afghanistan and North Nigeria is similar. In the most distant parts of the world of Islam, such as Indonesia and the Muslim enclaves in China, the *Sunnah* used to be less well-known. However, with the rise of modern means of communication, e.g. the enormous rise in the participation in the annual *Hajj* to Mecca, the knowledge of *proper traditions* has spread.

4.2 Divergence in another language

Section 1 showed that the data describe an economic divergence of the West from the Muslim world for 5-700 years that has created a wide economic gap. The data show that the changes took place in the West, and that the Muslim world simply failed to catch on.

One of the leading scholars of Middle East history, Bernard Lewis, forcefully argues (see Lewis, 2002)[13] that a process of intellectual divergence started with the Renaissance in the West. Lewis claims that before the Renaissance, the Middle East was intellectually similar to the West. But at that time, the Middle East entered a long period of stagnation, while the West became gradually more dynamic. The approach of Lewis is qualitative and based on examples from his vast readings, but it appears that Lewis describes a process of divergence very much as in Section 1.

It is easy to document that in relation to science and culture, a wide gulf exists between the Muslim world and the West: One would be hard pressed to mention any major scientific or technological progress that has emerged from the Muslim world in the last 400 years. The Nobel prices in the sciences have been given annually since 1901, and nobody from a univer-

13. It is an interpretative essay based on a dozen books of scholarly research in the history of the Middle East. The analysis of Lewis has been subjected to a great deal of controversy, though it is difficult to make sense of the subject discussed. The most well-known critique is the one of the late Edward Said, who argued that Lewis underestimates the sinister role of Western imperialism, and that he does not really understand all the nuances of Middle Eastern culture, which can only be understood by an insider. This does not explain the gap, and it is difficult to use the short episode of Western imperialism to explain a gap that was already big and growing long before any Middle Eastern country was included in a Western empire.

sity in a Muslim country has got one till now. The various lists of the 200 or 500 best universities in the world have never included one in the Muslim world, etc.

However, as always, it is difficult to find out precisely when the emergence of this gap started and why. The data in Section 1 suggest that it started in the 14th century as is also the impression of Lewis. Consequently, it seems reasonably clear that the period from the 15th to late in the 19th century was a period of stagnation in the Muslim world.[14] Even now, it is not catching up.

4.3 Fundamentals: The words of God vs scientific thinking

One argument claims that the difference is due to fundamentals: It looks at the spirit of science: It is in its nature critical and thrives in pulling arguments apart and subjecting everything to as much logical and empirical testing as possible.

(A) It is an article of faith in Islam that the Koran is the words of God, spoken by His Messenger, and faithfully written down by his followers. So to the extent that a subject is mentioned in the Koran, it is the final word for the believer.

(B) Muhammad stressed that he was a human being, but the stories of his life in the *Hadith* certainly describe an extraordinary person.

Thus, Muslim culture is firmly anchored in the early Middle Age in a small town far away in the desert. Contrast this with the Bible. The Old Testament is a motley collection of very old texts that allow many interpretations. The New Testament is four stories about the life of Christ by his disciples, though it is unclear how much the texts have been edited later. While Christians believe that the Bible is the key source to moral and religion, few take it as a guide to everyday life. The hypothesis emerging from these observations is thus:

(H6) The Muslim sees the Koran as God's words, and the original tradition is well documented. This makes science relatively constrained in Muslim countries.

4.4 The religious transition: Reducing the realm of religion

One way to view the religious transition starts from the idea that religion is a way to deal with the unknown and dangerous. The Grand Transition means that the unknown and various

14. An independent source confirming that the gap was large in the 18th century is the dairies of a Danish expedition 1761-67 to Egypt and along the cost of the Arabian Peninsula to Yemen, which have been the source of Hansen (1962) and recently republished.

dangers are reduced in two ways:

(a) The Grand Transition causes the unknown to be far less dangerous – i.e. it has doubled the expected lifespan at birth. As seen on Figure 1, it causes the distance between the gdp of countries, and the minimum for survival to increase dramatically. So, economic fluctuations become less dangerous. Investments, insurance and savings reduce the necessities of prayers and offerings to obtain security.

(b) The Grand Transition causes/necessitates a large increase in education and research. Science is an alternative way to explain the unknown. The scientific revolution has thus reduced the unknown a great deal. The progress in medicine has thus reduced the role of evil spirits and magic spells, etc. as the cause of diseases, and this has changed the ways people are dealing with many diseases.

It is obvious – also to ordinary people – that it is not better prayers, but better boats, radios and weather forecasts that have given sailors and fishermen a normal life expectation. So, if a religion insists that it provides *all* the answers, then the religion gets into trouble. It is forced to fight science and development as such.

4.5 Political traditions from the start

In addition, there is a great difference between Jesus and his disciples on the one side and Muhammad and his followers on the other side:

Jesus was an itinerant preacher and, like his disciples, poor and powerless. They lived in a distant province, and they had bad relations with both the local elite and the colonial regime. In the end, Jesus was executed. Surely, the political system in the Jewish Colony of the Roman Empire in the 1st century is no Christian ideal. Christianity soon started to spread, but for the first 300 years, it was a religion for the powerless and poor.

Muhammad was a wealthy and successful man before he started to preach (in 610). He later became both a military leader and a political reformer.[15] Within one century after his death, his followers conquered most of the world they knew. Thus, we know a great deal about the institutions preferred by the Messenger of God and his disciples.

During its first three centuries, Christianity was thus the religion of poor outsiders. Islam, on the other hand, was the religion of a political elite that created a system of institutions which

15. His new religion was at first badly received by the rulers of Mecca, and he had to flee (622) to Medina; but after several battles he returned as the ruler of the town (730). At that time, the Muslim army was already the strongest military force in Arabia.

were unusually successful for 700 years. It seems obvious that these institutions need large revisions to be used by rich and complex societies 1400 years later. However, the main point made by Islamists is precisely that all Muslim countries should return to these institutions.

(H7) While Christianity was not associated with political and military power, Islam was from the start fully integrated into political and military power.

Both believers and opponents of Islam have pointed to rather ferocious quotes from the Koran that belongs in the mouth of a warrior, and to descriptions in the Hadith where Muhammad the warrior put nonbelievers to the sword after a victory. It is clear that Islam has a side that can be made out as a defense for violence and war. However, there are other more peaceful parts, and Muhammad's main role was as a religious innovator and reformer.

After the first 300 years also Christianity developed institutions with considerable political power; but there is no story in the New Testament where Jesus appeared as a politician or a warrior, so the authority of the Church was not so easy to justify.

4.6 Clarity of rules

Section 4.1 mentioned that Islam is a religion with remarkably clear and observable rules. Since the rules are so clear, it is not as easy as in many other religions to adjust the rules to changes in the society. Thus, it is perhaps not surprising that Islam is a conservative religion. Also, a great effort is currently taking place within Islam, defending the religion and all its traditions against critique and even discussion.

All these arguments may or may not catch something important. In order to see how important they are, we have turned to the World Value Survey and looked for 3 types of items:

(A) Items regarding religiosity, notably items describing the importance of religion for the individual in his/her daily life. This was discussed in Section 3.
(B) Items regarding the political values, and in particular regarding the desired importance of religion in politics. This will be discussed in Section 5.
(C) Items regarding gender relations. Some such items will also be discussed in Section 5.

Finally, we are adding an analysis of welfare, using the happiness and life satisfaction items.

5. Political system preferences, gender relations and life satisfaction

The analysis of the additional items from the WVS is done using the same regression framework as in Table 7, though for the individual items.

5.1 Preferences for political systems, Table 9 and regressions (1) and (2) of Table 10

Table 9 covers 4 items about the political system preferred by the respondents. A full 90% of all respondents around the world prefer democracy. However, the answers to the questions become a bit more complex once the questions are contrasted with items about the satisfaction with the status quo. People often express high approval rates for the system they have, even if it is quite far from democracy, and they also profess great sympathy with democracy.

Table 9. Preferences for different types of regimes (only in W3 & W4)

	(2)		(2)		(3)		(4)	
Variable	Strong man		Army rule		Democracy		Do after faults	
Ln y	***-4.62***	***-4.39***	**-5.39**	**-6.39**	-0.88		***2.03***	***1.88***
(t-ratio)	(-1.9)	(-1.9)	(-2.3)	(-3.8)	(-0.9)		(1.8)	(1.7)
West	-8.45	**-10.99**	-6.56		**5.10**	**4.42**	3.77	**4.62**
(t-ratio)	(-1.5)	(-2.3)	(-1.2)		(2.3)	(3.1)	(1.4)	(2.0)
Muslim	***-8.66***	**-12.33**	**15.37**	**14.49**	2.20	**4.02**	3.58	***4.06***
(t-ratio)	(-1.6)	(-2.6)	(2.8)	(3.1)	(1.0)	(2.3)	(1.3)	(1.8)
	Controls for other countries and groups							
Arab	-6.89		-10.33		2.65		0.22	
(t-ratio)	(-0.8)		(-1.1)		(0.8)		(0.1)	
Transition	3.39		-5.74		-1.24		-1.38	
(t-ratio)	(0.9)		(-1.6)		(-0.8)		(-0.8)	
Orient	3.48		**21.82**	**25.02**	1.16		-2.04	
(t-ratio)	(0.6)		(3.7)	(4.7)	(0.5)		(-0.7)	
USA	4.81		4.50		-2.34		-3.65	
(t-ratio)	(0.4)		(0.4)		(-0.5)		(-0.6)	
	Fixed effects for waves (only asked twice)							
Wave 3	1.45		0.61		-1.17		0.79	
(t-ratio)	(0.5)		(0.2)		(-0.9)		(0.5)	
Constant	**76.77**	**77.85**	**64.37**	**69.21**	**96.67**	**88.10**	**68.44**	**69.13**
(t-ratio)	(3.7)	(3.94)	(3.2)	(4.6)	(12.2)	(117)	(6.9)	(7.3)
N	120	120	119	119	119	119	117	117
R2 adj	0.15	0.17	0.30	0.30	0.07	0.08	0.10	0.13
Average	35.1		17.5		89.8		87.2	
Sd	18.1		19.3		6.7		8.4	

Note: Full questions are given in Inglehart *et al* (2004). Items are E114, E116, E117, E123.

If we look at the preferences for *strong men* and *military rule*, the same thing appears. There are mixed signs that Muslims/Arabs prefer either (overlapping) kinds of government. Both Muslims and Orientals have some preferences for army rule, while few Westerners show any sympathy for this type of rule. Note also that the USA is a typical country as regards the 4 items in Table 9.

The two leftmost items in Table 10 look at the demand for a religious factor in politics. This is done by considering items F102 and F104. These questions are symmetrical, as they are both formulated to see if the respondents want a religious factor in politics. It shows the same secularization effect as in Tables 7 and 8. But note the extra effect of Islam. Clearly, Muslims want a religious factor in politics, while Westerners prefer politics not to have a religious factor.

In the opinion of many observers, this is the key factor explaining the large difference between the level of democracy in the Muslim and Western countries. Under Islam, all governments are at least partly theocracies. This causes the opposition to be the enemies of God, and thus democracy is difficult.

There is one main problem with this view: Americans deviate from other Westerners in precisely the same way as Muslims. This pattern is consistent with the much higher religiosity of the Americans than of other Westerners. However, both democracy indices have the USA as a full democracy, and the indices that reach back two centuries show that the USA actually was the first country to reach this status.

5.2 Gender and homosexuality: Regressions (3), (4) and (5) of Table 10

Three items are used to analyze the cultural factor in the gender values: One considers the attitude to women's labor market participation, and one the perceived need of women to have children. Here, the gap between the West and the Muslim world is large; and the USA does not deviate from other western countries.

In addition, we consider the item F118 about intolerance to homosexuality. This item supplements E036 in Table 8 about *family life problems*. It appears that the Koran speaks rather clearly in the matter, and in most Muslim countries, homosexual practices are punished. For this item, we find the largest gap between the West and the Muslim world: No less than 75 pp. Once more, the USA deviates to the same side as the Muslims, but here the effect of income easily outweighs the effect of religion.

Table 10. The role of religion in politics and two more items

	(1)		(2)		(3)		(4)		(5)	
	Role of religion in politics						Gender/family items			
	Nonbelievers		Strong believers		Jobs are scarce		Women need		Homosexuality	
Variable	fit for office		unfit for office		reserve to men		children		is never justified	
Ln y	**8.97**	**8.99**	**9.49**	**11.38**	**-7.36**	**-8.46**	**-8.57**	**-8.57**	**-13.64**	**-13.29**
(t-ratio)	(4.0)	(4.1)	(3.5)	(6.4)	(-5.5)	(-8.6)	(-4.2)	(-4.2)	(-7.9)	(-7.8)
West	**21.07**	**21.01**	8.59		-1.66		**-15.55**	**-14.21**	**-13.72**	**-16.51**
(t-ratio)	(3.7)	(3.9)	(1.3)		(-0.6)		(-3.5)	(-3.4)	(-3.8)	(-5.3)
Muslim	**-12.66**	**-15.05**	***11.70***		**21.01**	**20.27**	**11.12**	**13.38**	**17.20**	**17.32**
(t-ratio)	(-2.3)	(-3.3)	(1.6)		(6.3)	(6.2)	(2.1)	(2.9)	(3.6)	(3.7)
Controls for other countries and groups										
Arab	-5.11		***-17.88***		**23.20**	**22.73**	5.56		***14.51***	***13.63***
(t-ratio)	(-0.7)		(-1.9)		(4.4)	(4.3)	(0.7)		(1.8)	(1.7)
Transition	**19.44**	**19.71**	3.619		2.38		**11.98**	**11.55**	***4.40***	
(t-ratio)	(4.8)	(5.1)	(0.7)		(1.1)		(3.7)	(3.6)	(1.7)	
Orient	1.531		2.204		**11.12**	**11.45**	7.354	7.852	3.25	
(t-ratio)	(0.2)		(0.3)		(3.5)	(3.9)	(1.6)	(1.7)	(0.8)	
USA	**-37.88**	**-37.88**	**-34.85**	**-33.49**	-2.82		**-17.91**	**-18.25**	**18.20**	**17.70**
(t-ratio)	(-3.1)	(-3.1)	(-2.4)	(-2.3)	(-0.5)		(-2.1)	(-2.1)	(2.6)	(2.5)
Fixed effects for waves (most items are not asked in some waves)										
Wave 1							3.48		**14.32**	**15.97**
(t-ratio)							(0.8)		(3.9)	(4.5)
Wave 2					**9.21**	**9.10**	***5.54***	**6.02**	**13.73**	**15.54**
(t-ratio)					(4.3)	(4.3)	(1.7)	(2.1)	(5.1)	(6.2)
Wave 3					***3.71***	***3.84***	-3.21		***-4.17***	
(t-ratio)					(1.9)	(2.0)	(-1.0)		(-1.6)	
Constant	**-40.21**	**-40.35**	**-46.77**	**-58.89**	**92.97**	**103.1**	**136.0**	**134.9**	**175.6**	**173.5**
(t-ratio)	(-2.1)	(-2.2)	(-2.1)	(-3.8)	(8.2)	(11.5)	(7.8)	(7.9)	(11.8)	(11.8)
N	64	64	63	63	165	165	185	185	182	182
R2 adj	0.73	0.74	0.41	0.40	0.63	0.63	0.55	0.55	0.66	0.66
Average	48.4		40.7		36.2		60.4		56.2	
Sd	22.9		18.5		17.2		24.5		23.3	

Note: Full questions are given in Inglehart *et al* (2004). Items are F102, F104, C001, D019, F118.

For all items considered, nearly all have significant income effects. The largest of these is for the intolerance to homosexuality, where also a large negative trend occurs. The reader may wonder – as do the author – why these effects are so strong.

It is well-known that both Muslims and Westerners find the prevailing view at the other side of the cultural divide deeply immoral. Also, the Muslim view is based on rather clear passages in the Koran, so adjustment will not be easy; but due to the large income effect, this is a field where the traditional views of the Muslim are coming under increasing pressures.

5.4 Happiness and life satisfaction: Table 11

Finally, Table 11 considers two closely related welfare questions. A large literature deals with the family of "happiness questions" of which the "life satisfaction" item at the right hand side in the table is normally preferred (Frey and Stutzer, 2002).

Table 11. Two subjective welfare measures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	Very happy				High life satisfaction			
Ln y	-1.34		0.67		**7.50**	**7.19**	**10.82**	**10.16**
(t-ratio)	(-1.0)		(0.5)		(5.14)	(5.1)	(6.6)	(6.4)
West	1.06		3.16		**9.30**	**10.89**	**9.98**	**10.53**
(t-ratio)	(0.4)		(1.0)		(2.96)	(4.0)	(2.9)	(3.6)
Muslim	**-6.68**	**-7.74**	**-6.70**	**-9.60**	**-7.43**	**-7.88**	**-7.57**	**-8.76**
(t-ratio)	(-2.0)	(-3.0)	(-2.0)	(-3.3)	(-2.0)	(-2.5)	(-2.0)	(-2.7)
Controls for other countries and groups and for religiosity: R1								
Arab	-7.50		-7.37		-3.40		-3.78	
(t-ratio)	(-1.4)		(-1.4)		(-0.6)		(-0.6)	
Transition	**-22.70**	**-22.49**	**-18.00**	**-20.09**	**-17.92**	**-17.31**	**-12.78**	**-13.77**
(t-ratio)	(-11.1)	(-13.3)	(-6.3)	(-11.0)	(-7.7)	(-7.9)	(-4.0)	(-5.0)
Orient	-1.09		4.82		-3.23		0.29	
(t-ratio)	(-0.4)		(1.2)		(-1.0)		(0.1)	
USA	8.35		3.45		-0.91		-7.30	
(t-ratio)	(1.6)		(0.6)		(-0.2)		(-1.2)	
Item R1			**0.124**	**0.095**			**0.167**	**0.134**
(t-ratio)			(2.3)	(2.7)			(2.8)	(2.7)
Fixed effects for waves								
Wave 1	**-7.44**	**-6.34**	***-5.01***		1.05		4.63	
(t-ratio)	(-2.6)	(-2.4)	(-1.7)		(0.3)		(1.4)	
Wave 2	**-4.63**	**-3.83**	-2.87		3.21	***3.47***	**5.32**	**4.50**
(t-ratio)	(-2.2)	(-2.0)	(-1.3)		(1.4)	(1.7)	(2.1)	(2.1)
Wave 3	-1.82		-1.37		-0.95		-0.37	
(t-ratio)	(-0.9)		(-0.7)		(-0.4)		(-0.2)	
Constant	**46.71**	**34.26**	18.18	**26.58**	-6.39	-4.98	**-49.04**	**-40.68**
(t-ratio)	(4.2)	(28.3)	(1.2)	(11.1)	(-0.5)	(-0.4)	(-2.9)	(-2.6)
N	186	186	174	174	187	187	174	174
R^2 adj	0.49	0.49	0.48	0.48	0.67	0.67	0.69	0.69
Avr	24.8		25.3		57.5		57.7	
Sd	14.5		14.5		20.4		20.7	

Note: Full questions are given in Inglehart *et al* (2004). Note that some of the effect of R1 is due to multicollinearity. The items are (A008) and (A170).

We note that the two items give a rather different picture, even when they have a correlation of 0.65. At closer inspection, it turns out that the deviations are due to a few extreme deviations in poor (mainly African) countries that report high happiness, but little life satisfaction. Also, it gives credibility to the life satisfaction item that here the fixed effects for waves matter little. So we confirm the findings in the literature that life satisfaction is the better welfare measure.

One of the few findings that generalize to both items is that Muslims are less happy. If we calculate the difference between the West and the Muslim world in life satisfaction (using the methods of Table 9), a rather large gap appears. It confirms the impressions of many observers that Muslims are rather frustrated with the way the world develops, and thus our hypothesis (H4) above.

It is often alleged that religion makes people happy and more satisfied with their lot. Our findings basically reject this idea – religious Americans are not happier than other Westerners. And irreligious Westerners are happier than the religious Muslims, also when the relation is controlled for income.

However, when we include the Item R1 which has the highest loading to the religiosity factor in Table, it does generate a significantly positive coefficient, though it is fairly small compared to the contrary evidence given.

6. Conclusions: Will the Muslim gap close?

Above, we have looked at two parts of the Grand Transition of countries from poor to wealthy: The democratic transition and the religious transition, also known as the secularization. In both processes, the Muslim world forms an exception. It has no democratic transition, and secularization is weak. In the two fields, the gap between the Muslim countries and the rest of the world is large and widening.

The main reason for the widening gap is the adjustment of values and opinions in the rest of the world due to rising income. These adjustments are an important part of economic development. However, while the rest of the world gradually adjusts, the values and opinions of the Muslim world are more rigorous and conservative as they are tied to the Koran and traditions going back to the 7th century. This causes a slower economic development and considerable frustrations as is evident in the significantly lower life satisfaction.

We know that there has been considerable attempt of adjustment in the Muslim world as well. It is easy to point to important political leaders such as Mustafa Kemal Atatürk, Gamal Abdel Nasser, the two Shahs of Iran, etc., who strived hard to modernize their countries (though not towards democracy). However, their efforts are hard to document in the data.

During the last 20-30 years, there has been a large Islamist backlash in many Muslim countries. It demands a return to original Islam and its rigorous moral standards, especially as regards family life. At present, it appears that the backlash has generated a movement in the direction desired. Waves as the present Islamist one are typically transitory, but we have found no clear indications that the backswing has peaked yet.

So in addition to the long-run problem causing a growing gap, there is a medium-run tendency for the gap to grow.

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Appendix Table. The World Value Survey: Countries covered and the classification used

		W1	W2	W3	W4	W	M	A	O	T			W1	W2	W3	W4	W	M	A	O	T
1	Albania			1	1		1				43	Latvia		1	1	1					1
2	Algeria				1		1	1			44	Lithuanea		1	1	1					1
3	Argentina	1	1	1	1						45	Luxemburg				1	1				
4	Armenia			1						1	46	Macedonia			1	1					1
5	Australia	1		1		1					47	Malta	1	1		1	1				
6	Austria		1		1	1					48	Mexico		1	1	1					
7	Azerbaijan			1			1				49	Moldova			1	1					
8	Bangladesh			1	1		1				50	Morocco				1		1	1		
9	Belarus		1	1	1					1	51	Netherlands	1	1		1	1				
10	Belgium	1	1		1	1					52	New Zealand			1		1				
11	Bosnia			1	1					1	53	Nigeria		1	1	1					
12	Brazil		1	1							54	Norway	1	1	1		1				
13	Bulgaria		1	1	1					1	55	Pakistan			1	1		1			
14	Canada	1	1		1	1					56	Peru			1	1					
15	Chile		1	1	1						57	Philippines			1	1				1	
16	China		1	1	1				1		58	Poland		1	1	1					1
17	Colombia			1							59	Portugal		1		1	1				
18	Croatia			1	1					1	60	Puerto Rico			1	1					
19	Czech Re		1	1	1					1	61	Romania		1	1	1					1
20	Denmark	1	1		1	1					62	Russia		1	1	1					1
21	Dom Re			1							63	Saudi Arabia				1		1	1		
22	Egypt				1		1	1			64	Serbia			1	1					1
23	El Salvador			1							65	Singapore				1				1	
24	Estonia		1	1	1					1	66	Slovakia		1	1	1					1
25	Finland		1	1	1						67	Slovenia		1	1	1					1
26	France	1	1		1						68	South Africa		1	1	1					
27	Georgia			1						1	69	Spain	1	1	1	1	1				
28	Germany	1	1	1	1						70	Sweden	1	1	1	1	1				
29	Greece				1						71	Switzerland		1	1		1				
30	Hungary	1	1	1	1					1	72	Taiwan			1					1	
31	Iceland	1	1		1	1					73	Tanzania				1					
32	India		1	1	1						74	Turkey		1	1	1		1			
33	Indonesia				1		1				75	Uganda				1					
34	Iran				1		1				76	UK	1	1	1	1	1				
35	Iraq				1		1	1			77	Ukraine			1	1					1
36	Ireland	1	1		1	1					78	Ulster	1	1		1	1				
37	Israel				1	1					79	Uruguay			1						
38	Italy	1	1		1	1					80	USA	1	1	1	1	1				
39	Japan	1	1	1	1				1		81	Venezuela			1	1					
40	Jordan				1		1	1			82	Vietnam				1				1	
41	Korea S	1	1	1	1				1		83	Zimbabwe				1					
42	Kyrgistan				1								21	43	54	70	21	13	6	7	19

Note: The 4 waves are W1 (81/82), W2 (89/90), W3 (94/95) and W4 (99/00). The country classifications are W for Western, M for Muslim, A for Arab, The OM group is thus those who are M but not A. O is used for Oriental which means Far Eastern. T is the transition group.